[illegible] [illegible]2/057

AUTHORS Gol'dinov, A. L., Lakhovit[illegible], [illegible] [illegible]avrina, N. A.

TITLE Analysis of chloro-fluoro methanes by gas-liquid chromatography

PERIODICAL Zavodskaya laboratoriya, v. 2[illegible], no. 2, 196[illegible], 15[illegible] - 151

TEXT: A report is made on the test of Freon-22 for the content of Freon-12, Freon-2[illegible], and Freon-23 as impurities. A column of 320 cm length filled with diatomite that was soaked with dibutyl phthalate (100:25), inside diameter 0.7 cm, rate of N_2 (carrier gas) 40 ml/min at 18°C, was found to be optimum. The gas to be analyzed (~50 ml) was fed into the column by a dosing device. The difference between the refractive index of the pure carrier gas and that of the [illegible] through the column was measured every 30 sec by an ИТР-1 ([illegible]) interferometer. The analysis of the mixtures showed the retention time: Freon-23, 4 min; Freon-12, 6.5 min; Freon-22, 10 min, and Freon-21, [illegible] (blurred peak). To shorten the time of analysis and raise the sensitivity to Freon-21, the N_2 rate was increased after 10 min to [illegible] ml/min, and the temperature to 40°C by means

Card 1/2

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000515710004-8"

S 052/62/024/002/002/057
B101/B110

Analysis of chloro-fluoro methanes. .

of a TC-1-M [illegible] thermostat. Experiments with mixtures of Freon-12, Freon-21, or Freon-22 with H_2 produced an analysis error of about ± 20% for 0.020%, and of about ± 5% for 0.1 - 0.5% Freon content. There are 1 figure, 1 table, and 3 non-Soviet references. The three references to English-language publications read as follows: W. C. Percival1, Anal. Chem., 29, 1, 20 (1950); H. H. Bausdorff, K. Brenner, Oil a Gas. J., 4, 89 (1958); F. H. Pollard, J. F. Hardy, Anal. Chem. Acta, 16, 2, 145 (1957).

Card 2/

GOL'DINOV, A.L.; STABROVSKIY, A.I.

Determination of the composition of some U^{IV} and U^{VI} complexes in aqueous solutions. Zhur. neorg. khim. 8 no.7:1612-1616 Jl '63. (MIRA 16:7)

(Uranyl compounds)

SOV/137-58-7-14859

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 132 (USSR)

AUTHOR: Gol'dinov, A.P.

TITLE: Experiences in the Operation of Forging Furnaces Using Producer Gas (Opyt ekspluatatsii kuznechnykh pechey, rabotayushchikh na generatornom gaze)

PERIODICAL: V sb. Progressivn. metody shtampovki i kovki. Khar'kov, Oblizdat, 1957, pp 152-158

ABSTRACT: The consumption of gas required for the production of a single conventional unit of manufacture has dropped in the past 10 years from 165 to 55 m^3. An obstacle to increasing the output of the furnaces (F) and particularly of forging furnaces was the difficulty of obtaining temperatures > 1200°C when working with gas of 1250 kcal/nm^3 heating value. To increase productivity and improve the operation the heating value of the gas employed was raised to 1250 kcal/nm^3, and recuperators were installed to heat the air to 250-300° in all the forging F: this afforded a reduction of 10% in gas consumption. It is noted that installed recuperators of the "Termoblok" model function 3-5 years without replacement, and RIM-3 recuperators work 3-4

Card 1/2

SOV/137-58-7-14859

Experiences in the Operation of Forging Furnaces Using Producer Gas

years, so long as the products of combustion are mixed to attain temperatures of 400-500°. Tubular recuperators are also employed. For further increase in temperature in the F and fuel economy the gas, too, is heated to 200-220°. Automatic temperature control is effected with the aid of an RM-47 electronic control and a number of other instruments. A description is presented of measures to increase the life of the F masonry and also of a method developed by this plant to cleanse anthracite producer gas of S. The gas is rendered 80-90% pure.

M.Z.

1. Furnaces--Operation 2. Fuels--Thermal effects 3. Gases--Applications

Card 2/2

L 27354-66 EWT(m)/T/ETC(m)-6 WW/DJ

ACC NR: AP6007710 (A) SOURCE CODE: UR/0413/66/000/003/0104/0104

AUTHORS: Grauze, G. N.; Shvetsov, A. V.; Gol'dinov, G. V.

34
B

ORG: none

TITLE: Composite bearing insert. Class 47, No. 178615

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 3, 1966, 104

TOPIC TAGS: antifriction bearing, antifriction material

17

ABSTRACT: This Author Certificate presents a composite bearing insert containing laminae (see Fig. 1). To improve the antifriction properties, the plates are made

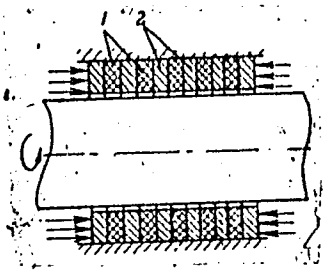


Fig. 1. 1 and 2 - laminae.

2

Card 1/2

UDC: 621.822.5

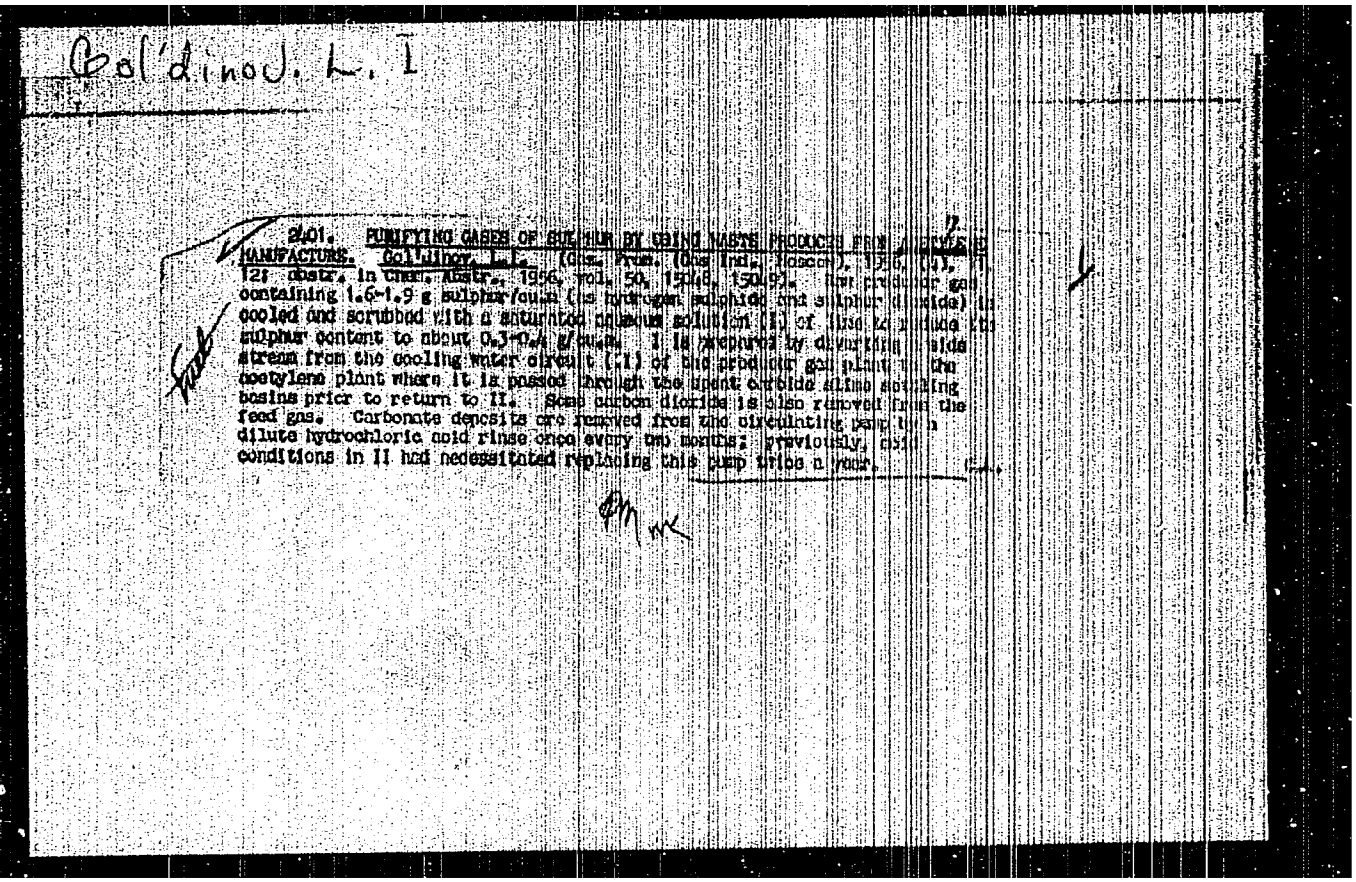
L 27354-66

ACC NR: AP6007710 O

of different plastics or plastic and metal, stacked in alternate order and axially loaded during assembly by spring-loaded or elastically tightened flanges. Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 23May63

Card 2/2 PB



Gol'dinov, L. I.

2401. PURIFYING GASES OF SULPHUR BY USING WASTE PRODUCTS from ... IN ACETYLENE MANUFACTURE. Gol'dinov, L. I. (Gaz. Prom. (Gas Ind., Moscow), 1956, (1), 12; Abstr. in Chem. Abstr., 1956, vol. 50, 13248, 13249). The producer gas containing 1.6-1.9 g sulphur/cu.m. (as hydrogen sulphide and sulphur dioxide) is cooled and scrubbed with a saturated aqueous solution (I) of lime to reduce the sulphur content to about 0.3-0.4 g/cu.m. I is prepared by diverting ... alkaline stream from the cooling water circuit (II) of the producer gas plant to the acetylene plant where it is passed through the spent carbide slime scrubbing basins prior to return to II. Some carbon dioxide is also removed from the feed gas. Carbonate deposits are removed from the circulating pump by a dilute hydrochloric acid rinse once every two months; previously, such conditions in II had necessitated replacing this pump three a year.

GOL'DINOV, L.P.

Removal of sulfur from gas by using wastes from acetylene production. (MLRA 10:1)
Gaz.prom. no.4:11-12 Ap '56.
(Acetylene) (Sulfur) (Gases)

GOL'DINOV, L.P.

Carburizing internal hollow parts by means of natural gas in a protective gas atmosphere. Gaz.prom. 5 no.1:30 Ja '60. (MIRA 13:4)

(Case hardening) (Gas, Natural)

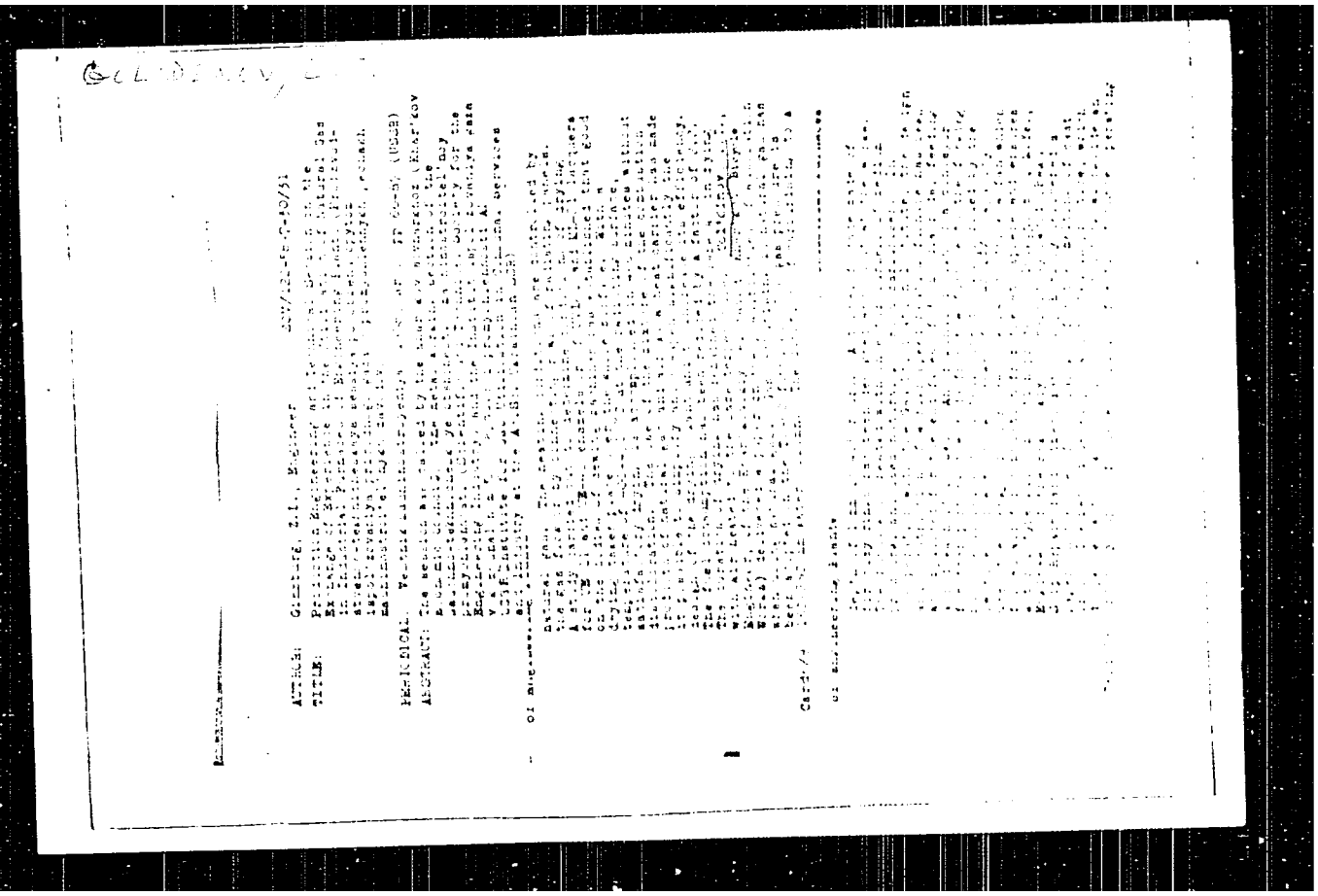
GOL'DINOV, L.R.; GORDELADZE, G.E.; KHASHBA, M.L., red.; KHOSHTARIYA, V.G., red. izd-va;

[Soviet Abkhazia] Sovetskaia Abkhaziia. Tbilisi, Gos. izd-vo "Sabchota Sakartvelo," 1960. 1 v. (MIRA 14:10)
(Abkhazia—Views)

DELBA, M.K., glav. red.; BGAZHBA, Kh.S., red.; GOL'DINOV, L.R., red.; KHAKH-MIGERI, M.D., tekhn. red.

[The Abkhazian A.S.S.R.] Abkhazskaia ASSR. Sukhumi, Abgosizdat, 1961. 148 p. (MIRA 14:8)

(Abkhazia--Economic conditions)



25 (1) SOV/115-59-12-2/20

AUTHORS: Melkonov, V.A. ... Kesselman, S.N., Nemirovskiy, A.S.

TITLE: The Analysis of ... Error Produced by Discrete Action Integrators

PERIODICAL: Izmeritel'naya tekhnika, 1959, Nr 12, pp 4-6 (USSR)

ABSTRACT: An instrumental miscalculation of an integrator arises only when the φ_i deflection angle of the output shaft of an integrator varies from cycle to cycle and the lever which introduces the element to be integrated remains in a fixed position. This variation is caused, for instance, by delayed switch-off-and-on of the counter in each integration cycle. The miscalculation represents the difference between φ_i and the assembly average of the deflection angle φ_{oi} $\Delta\varphi_i = \varphi_i - \varphi_{oi}$ The corresponding miscalculation of the measured element for each integration cycle will be $\delta_u = K\Delta\varphi$ (1)

Card 1/4

The Analysis of Instrument Error Produced by Discrete Action Integrators

where k is the proportional coefficient between the deflection angle and the measured element. The authors further describe an experimental evaluation method of an instrumental miscalculation and of the integration error derived from this miscalculation. The integration error corresponding to a time period (0 T) will be

$$\Delta_u = \int_0^T \Delta_u (t)\, dt \qquad (2)$$

As the assembly average of an instrumental miscalculation $M\Delta_u = 0$, so the assembly average of integration error derived from this miscalculation $M\Delta_u$ is also 0 The variance of the integration error, derived from the formula (2) will be

$$D\Delta_u = \int_0^T \int_0^T R_u (t,s)\, dt\, ds$$

The Analysis of Instrument Error Produced by Discrete Action Integrators

where R_u [illegible] a correlation function of instrumental miscalculation. If we admit the stability and the ergodicity of the process then

$$DA_u = \int_{0-t}^{T-t} R_u(\tau)\,d\tau \approx T\int_{-\infty}^{\infty} R_u(\tau)\,d\tau \qquad (3)$$

where $R_u(\tau) = R_u(0,\tau)$. The expression of a correlation connection being

$$\tau_u = \frac{1}{D\delta_u}\int_0^{\infty} R_u(\tau)\,d\tau \qquad (4)$$

the (3) and (4) formulae give

$$DA_u = 2T\tau_u D\delta_u \qquad (5)$$

Thus to determine the variance of the integration error DA_u we must know the variance of the instrumental miscalculation $D\delta_u$ and the value τ_u. These values

Card 2/[illegible]

The Analysis of Instrument Errors Produced by Discrete Action Integrators

were determined experimentally for integrators produced by the Kharkovskiy zavod (Kharkov Plant) "Kvant" and by the "Manometr" Plant. A detailed description of this experiment is given. There are 3 graphs, 1 table and 1 Soviet reference.

Card 4/4

GOL'DINOV, M.A.

Unit for determining frequency characteristics of differential manometer-type flowmeters. Izm.tekh. no.9:49-51 S '61. (MIRA 14:8)

(Flowmeters--Testing)

GOL'DINOV, M. A.

Determining the error in measuring transfer functions of instruments with linear dynamic system. Trudy inst. Kom. stand. mer i izm. prib. no.57:39-46 '62. (MIRA 15:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut Komiteta standartov, mer i izmeritel'nykh priborov pri Sovete Ministrov SSSR.

(Measuring instruments)

SOURCE CODE: UR/0000/66/000/000/0148/0152

AUTHOR: Gol'dinov, M. A.

ORG: none

TITLE: Increasing the operating speed of pneumatic extremal controllers

SOURCE: AN SSSR. Institut avtomatiki i telemekhaniki. Pnevmoavtomatika (Pneumatic automation). Moscow, Izd-vo Nauka, 1966, 148-152

TOPIC TAGS: pneumatic control, pneumatic servomechanism, optimal control

ABSTRACT: A high speed pneumatic extremal controller developed at the Moscow Polygraphic Institute is described. The controller is intended to maintain the quantity to be optimized at a maximum in inertial systems. The controller's search time is faster for first order objects than for second order. It provides high speed switching for the servo element and finds that position at which the first derivative of the quantity to be controlled is a maximum. The pneumatic circuitry uses USEPPA elements, the BP-28P lead unit and one AUS element. A schematic and time diagram of the controller are given. One laboratory test is described in which a 45-60 sec search time involved a 2-3% hunting period. Orig. art. has: 4 figures, 9 formulas. [14]

SUB CODE: 13/ SUBM DATE: 03Feb66/ ORIG REF: 003

Card 1/1

L 8344-66 EEC(k)-2/EWA(h)/EWP(k)/EWT(d)/EWT(l)/EWP(v)/EWP(l)/EWP(h)

ACC NR: AP5025750 SOURCE CODE: UR/0286/65/000/018/0097/0098

AUTHORS: Gol'dinov, M. Ya.; Kazakevich, V. V.

ORG: none

TITLE: Fast acting pneumatic regulator. Class 42, No. 174866

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 18, 1965, 97-98

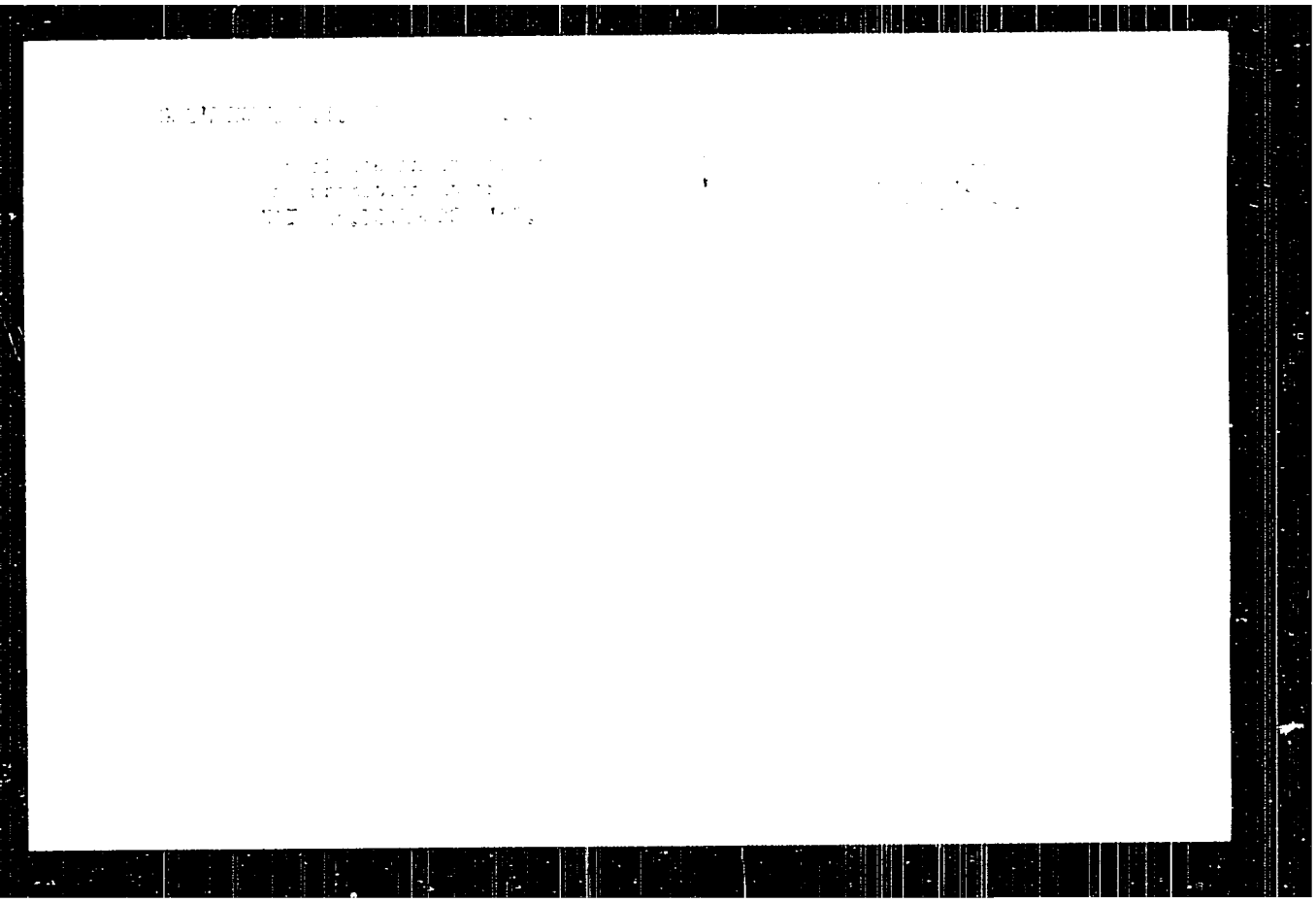
TOPIC TAGS: pneumatic regulator, automatic control, PNEUMATIC CONTROL, PNEUMATIC CONTROL SYSTEM

ABSTRACT: This Author Certificate presents a fast acting pneumatic regulator based on USEPPA elements containing a first derivative transducer, a signum-relay, a checking reverser commutator, a reverse trigger, and an actuating mechanism. To increase the regulator stability margin during drifting of an extreme characteristic, the signum-relay output is simultaneously connected to the inlet of a blocking relay and through a discrete memory element to the inlet of an intermediate relay. The latter is connected to the blocking relay, and its outlet is connected to the reverser trigger.

SUB CODE: 13/ SUBM DATE: 29Apr64

jw

Card 1/1 UDC: 621-525-55



GOL'DINOV, V.I.

Courses for improving the qualifications of information workers of the Leningrad Economic Council. NTI no.8,10-12 '64. (MIRA 17:12)

GOL[illegible]OV, V. [illegible], [illegible] I.A., [illegible] F.M.

Pra[illegible] in [illegible] and using information retrieval systems on cards with perforated borders, punched cards with machine sorting, and [illegible] cards. NTI no.7:25-30 '65.
(MIRA 18:9)

L 15221-66
ACC NR: AP6000039 SOURCE CODE: UR/0315/65/000/007/0025/0030

AUTHOR: Gol'dinov, V. I.; Yuferova, I. A.; Gorobets, F. M.

ORG: none

TITLE: Experience in the development and practical application of information-search systems employing edge-perforated punched cards, machine-sorter punched cards, and superimposed punched cards

SOURCE: Nauchno-tekhnicheskaya informatsiya, no. 7, 1965, 25-30

TOPIC TAGS: scientific information, information storage and retrieval, data processing personnel, punched card

ABSTRACT: The authors describe their experiences in the development and utilization of three types of information-search systems (ISS) which were displayed at the exhibition of proposals of inventors, efficiency experts, and innovators of Leningrad economic region which began in October, 1964. All three ISS (employing edge-perforated punched cards, 80-column machine-sorter punched cards, and 80-column superimposed punched cards) were developed on the basis of a single fund of information consisting of 750 original documents dealing with the technical descriptions of some of the displays at the exhibition, drafts, and a technical-information newssheet. Both the ISS employing the edge-perforated cards and the sorter cards used a unified search-notation code system. A descriptive dictionary

Card 1/2 UDC: 002.513.5:676.815

L 15221-66
ACC NR: AP6000039

containing 719 terms was developed for the superimposed card ISS. Comparative results of the operation of the three types of ISS are presented. The expediency of introducing the ISS described into the practical operations of information sciences groups is discussed, and the need of a comparative study of the effectiveness of each type of ISS is indicated. Authors express their sincere gratitude to associates of VINITI V. A. Polushkin, L. P. Shchegolev, A. I. Rozanov, and K. A. Razlogova, and associates of NIIMASh K. A. Nikolayev, E. N. Mil'man, Ye. N. Afanas'yeva, M. A. Koshlakova, and N. I. Lakshina for their great practical assistance in organizing the work of the information-request department of the exhibition of Leningrad innovators and valuable advice. Orig. art. has: 5 figures and 2 tables.

SUB CODE: 05, 09 / SUBM DATE: 06Mar65

Card 2/2

BUGAY, P.T. [Buhai, P.T.]; VIDUYEV, M.G. [Viduiev, M.H.], prof., doktor tekhn. nauk, retsenzent; YEVSEYEV, S.V. [IEvsieiev, S.V.] doktor tekhn. nauk, retsenzent; GOLDIREV, B.V. [Holdiriev, B.V.], dots., kand. tekhn. nauk, retsenzent; LISICHANSKIY, O.S. [Lysychanskyi, O.S.], kand. tekhn. nauk, otv. red.; POLUBICHKO, B.V., red.; SARANYUK, T.V., tekhnred.

[Theory of errors and the method of least squares] Teoriia pomylok i sposib naimenshykh kvadrativ. L'viv, Vyd-vo L'vivs'koho univ. Pt.1. 1960. 366 p. (MIRA 15:11)

(Least squares) (Geodesy)

MOLDOVAN, N.; WEINBACH, R.; STERESCO, P.; SFINDIAN, O.; GOLDIS, E.

The agglutination of tanned formaldehyde-treated human erythrocytes by human sera (TFE agglutination). III. Value of TFE test in the diagnosis of viral hepatitis (VH). Arch. Roum. path. exp. microbiol. 20 no.3:517-522 S '61.

1. Travail de l'Hopital No. 2 de Maladies contagieuses Bucarest et de l'Institut "Dr. I. Cantacuzino".
(HEPATITIS, INFECTIOUS diagnosis) (AGGLUTINATION)

NICOLAU,I.; GOLDIS, Gh.; MIHAIL, Georgeta.

The study of blood magnesium in convulsive syndromes in infants.
Arch. roum. path. exp. microbiol. 22 no.4:1017-1022 S-D'63

1. Travail de l'Hopital Clinique de Fundeni - Bucarest.

DIACONITA, Gh.; GOLDIS, Gh.

Pathomorphology and pathogenesis of pulmonary paragonimiasis.
Acta morph. acad. sci. Hung. 12 no.3:315-331 '64

1. Section of Pathology and Nampho Hospital, Korean People's Democratic Republic, and Section of Pathology Institute of Phthisiology, Bucharest.

ZAKRZHEVSKIY, Ye.B., polkovnik med.sluzhby, doktor med.nauk; GOL'DIS, G.M. polkovnik med.sluzhby; PROTOPOPOV, I.I., podpolkovnik med.sluzhby

Changes in blood and bone marrow in Far Eastern infectious hemorrhagic nephrosonephritis. Voen.-med.zhur. no.10:55-59 O '59. (MIRA 12:12)

(EPIDEMIC HEMORRHAGIC FEVER, pathol.
blood and bone marrow changes (Rus))
(BLOOD
picture in epidemic hemorrh. fever (Rus))
(BONE MARROW, pathol.
in epidemic hemorrh. fever (Rus))

S/146/63/006/001/013/014
D201/D308

AUTHORS: Churilovskiy, V. N. and Gol'dis, K. I.

TITLE: An apochromatic katoptric system replacing a parabolic mirror

PERIODICAL: Izvestiya vysshikh uchebnykh zavendeniy. Priborostroyeniye, v. 6, no. 1, 1963, 118-126

TEXT: The authors consider the design of an apochromatic katoptric system which can replace a parabolic mirror. The system has no aspherical surfaces and consists of two lenses (with an air gap between them) made of optical glass of the same composition and manufacture. The closing surface of the second lens is coated with a reflective layer. The analysis of design formulas and experimental measurements show that the third order aberration of the system is the same as that of a parabolic mirror and that the system also exhibits the apochromatic correction over a wide range of the spectrum. There are 4 figures and 2 tables.

Card 1/2

An apochromatic katoptric ... S/146/63/006/001/013/014
D201/D308

ASSOCIATION: Leningradskiy institut tochnoy mekhaniki i optiki (Leningrad Institute of Precision Mechanics and Optics)

SUBMITTED: April 5, 1962

Card 2/2

GOL'DIS, L.S.

Organization and introduction of blood transfusion into the practice of rural medical establishments. Akt.vop.perel.krovi no.4:269-273 '55. (MIRA 13:1)

1. Kurskaya oblastnaya stantsiya perelivaniya krovi.
(KURSK PROVINCE--BLOOD--TRANSFUSION)

GOL'DIS, L. S.

GV, M.Yu.; GOL'DIS, L.S.

Problem of the transmission of infectious hepatitis (Botkin's disease) in blood transfusion. Probl.gemat. i perel.krovi 2 no.3: 46-50 My-Je '57. (MLRA 10:8)

1. Iz Kurskoy oblastnoy stantsii perelivaniya krovi (dir. L.S. Gol'dis)
(JAUNDICE, HOMOLOGOUS SERUM, case reports (Rus))

GOL'DIS, L.S.

Use of polyglucin in the treatment of shock. Akt.vop.perel.krovi no.7:347-349 '59. (MIRA 13:1)

1. Kurskaya oblastnaya stantsiya perelivaniya krovi.
(DEXTRAN) (SHOCK)

GOL'DIS, L.S.; KHAKHALEV, E.I.

Effectiveness of polyglucin in the treatment of shock. Probl. gemat. i perel. krovi 4 no. 10:57-59 O '59. (MIRA 13:8)

1. Iz Kurskoy oblastnoy stantsii perelivaniya krovi (dir. - L.S. Gol'dis) i fakul'tetskoy khirurgicheskoy kliniki (zav. - M.G. Kudritskiy) Kurskogo meditsinskogo instituta.
(SHOCK) (BLOOD PLASMA SUBSTITUTES)

GOL'DIS, L.S.

Centralized delivery of preserved blood and blood preparations to therapeutic institutions. Zdrav. Ros. Feder. 4 no.9:36-37 S '60. (MIRA 13:9)

1. Glavnyy vrach Kurskoy oblastnoy stantsii perelivaniya krovi.
(BLOOD—COLLECTION AND PRESERVATION)

GOL'DIS, L. S.

Period of usefulness of dry plasma dehydrated on apparatus of Rosenberg's system. Probl. gemat. i perel. krovi no.12:47-48 '61. (MIRA 15:6)

1. Iz Kurskoy oblastnoy stantsii perelivaniya krovi (dir. L. S. Gol'dis)

(BLOOD--COLLECTION AND PRESERVATION)

D'YAKOVA, [illegible]; ZUZANOVA, V. [illegible]
[Lytvynenko, A.H. [illegible]; P[illegible]SHYAT[illegible]SKAYA, [illegible]
H.D.]; BESSONOVA, [illegible]; BOYY, O. [illegible]
PRIMAKOV, S.V.; YUNKO, M.A.; GOL'DIS, S.M. [illegible]
BARAN, M.A.; KOSACHEVSKAYA, P.I. (Kosachevs'ka, [illegible]), dotsent;
SHTAN'KO, L.V.; GAGARINOV, V.S. [Haharynov, [illegible]]

Annotations and authors' abstracts. Ped., akush. i gin. [illegible]
no.6:33-36 [illegible]2.

1. Kafedra pediatrii Zaporozhskogo instituta [illegible] vovaniya vrachey (for D'yakova). 2. Kafedra [illegible] skogo meditsinskogo instituta (for Zuzanova). 3. Klinika infektsionnykh bolezney Odesskogo meditsinskogo instituta (for Litvinenko). 4. Kafedra detskikh infektsionnykh bolezney [illegible] meditsinskogo instituta (for Peshyachevskaya). 5. Klinika detskikh infektsionnykh bolezney Krymskogo meditsinskogo instituta (for Bessonova). 6. Kafedra fakul'tetskoy pediatrii Krymskogo meditsinskogo instituta (for Boyy). 7. Shakhternaya [illegible] g. Bokovo-Antrasit (for Primakov). 8. Starosamborskaya rayonnaya bol'nitsa L'vovskoy oblasti (for Yunko). 9. Vinnitskaya [illegible] bol'nitsa No.2 (for Gol'dis). 10. Kafedra gigiyeny Kiyevskogo instituta usovershenstvovaniya vrachey (for Baran, [illegible]). 11. Kafedra urologii Kiyevskogo meditsinskogo instituta (for Shtan'ko). 12. 9-ya gorodskaya bol'nitsa g. Dnepropetrovska (for Gagarinov).

S/276/63/000/002/022/052
A052/A126

AUTHORS: Gol'dis, Z.S., and Gurevich, L.I.

TITLE: Producing cutting tools by the arc build-up method"

PERIODICAL: Referativnyy zhurnal, Tekhnologiya mashinostroyeniya, no. 2, 1963, 94, abstract 2B480 (In collection:"Vnedreniye peredovoy tekhnol. svarki", no. 1, Irkutsk, 1960, 58-61)

TEXT: The technology is described for producing milling cutters by the method of arc build-up of blanks with grooves (by the number of built-up teeth) milled in them. The process is employed at the Irkutsk heavy machinery plant. The build-up is performed with P-18 (R-18) high-speed steel electrodes 6-8mm in diameter with a coating 1.5-2.5mm thick of the following composition (in %): commercial chalk 54, fluorite 26, ferrochrome 8, ferrosilicon 8, ferromanganese 2, argentographite 2, and water glass 30% (of the sum of dry components) on direct current of reversed polarity. To prevent the swelling and damage of the coating a thorough preliminary passivation of ferrosilicon and ferromanganese is made. The blanks heated to 550-600°C are fixed by the ends in the center of a special turning device

Card 1/2

S/276/63/000/002/022/052
A052/A126

Producing cutting tools...

after which the build-up of teeth of the tool begins, the blank being turned each time by 180°. After build-up of the first layer (0.8-0.7 of the depth of the groove) the seam and the nearby surface are cleaned by means of a pneumatic hammer and a steel brush, and then the blank is heated to 550-600°C by turning. After building-up the second layer the blanks are cooled slowly in the furnace and are then heat treated. The hardness of built-up metal after annealing is within RC = 22-26 (HB = 235-262). As a result of a reduced-consumption of high-speed steel the plant saved 40,000 rubles a year.

L. Kamionskiy

(Abstracter's note: Complete translation.)

Card 2/2

COLDKRAUT, P.

2d Meeting of Polish Heating Engineers. p. 64.

GAZ, WODA I TECHNIKA SANITARNA. (Stowarzyszenie Naukowo-Techniczne Inzynierow i Technikow Sanitarnych, Ogrzewnictwa i Gazownictwa) Warszawa, Poland. Vol. 33, no. 2, Feb. 1959.

Monthly list of East European Accessions Index (EEAI), LC, Vol. 8, no. 6, June 1959
uncla.

GOL'DMAKHER, P.E.; GLIZER, Z.Kh.

Casting heating radiators in chill molds. Lit.proizv. no.11:15-17 N '62. (MIRA 15:12)

(Molding (Founding)) (Radiators)

GOL'DMAKHER, S.E.

Migration of foreign bodies in the organism. Vest.rentg. i rad. 33 no.1:82-84 Ja-F '58. (MIRA 11:4)

1. Iz rentgenologicheskogo kabineta (zav.S.E. Gol'dmakher) Chernovitskoy psikhonevrologicheskoy bol'nitsy (glavnyy vrach N.F. Chubinets).

(FOREIGN BODIES
migration, x-ray localization (Rus)

GOL'DMAN, A.

The State Planning Committee of the Council of the Ministers of the U.S.S.R. has the word. Mest.prom.i khud.promys. 3 no.4:12 Ap '62. (MIRA 15:5)

1. Glavnyy bukhgalter Dnepropetrovskoy trikotazhnoy fabriki. (Knit goods industry) (Yarn)

GOI'DMAN, A.

Efficiency promotion and inventions in the Dnepropetrovsk harbor.
Rech. transp. 21 no.2:17-19 F '62. (MIRA 15:3)

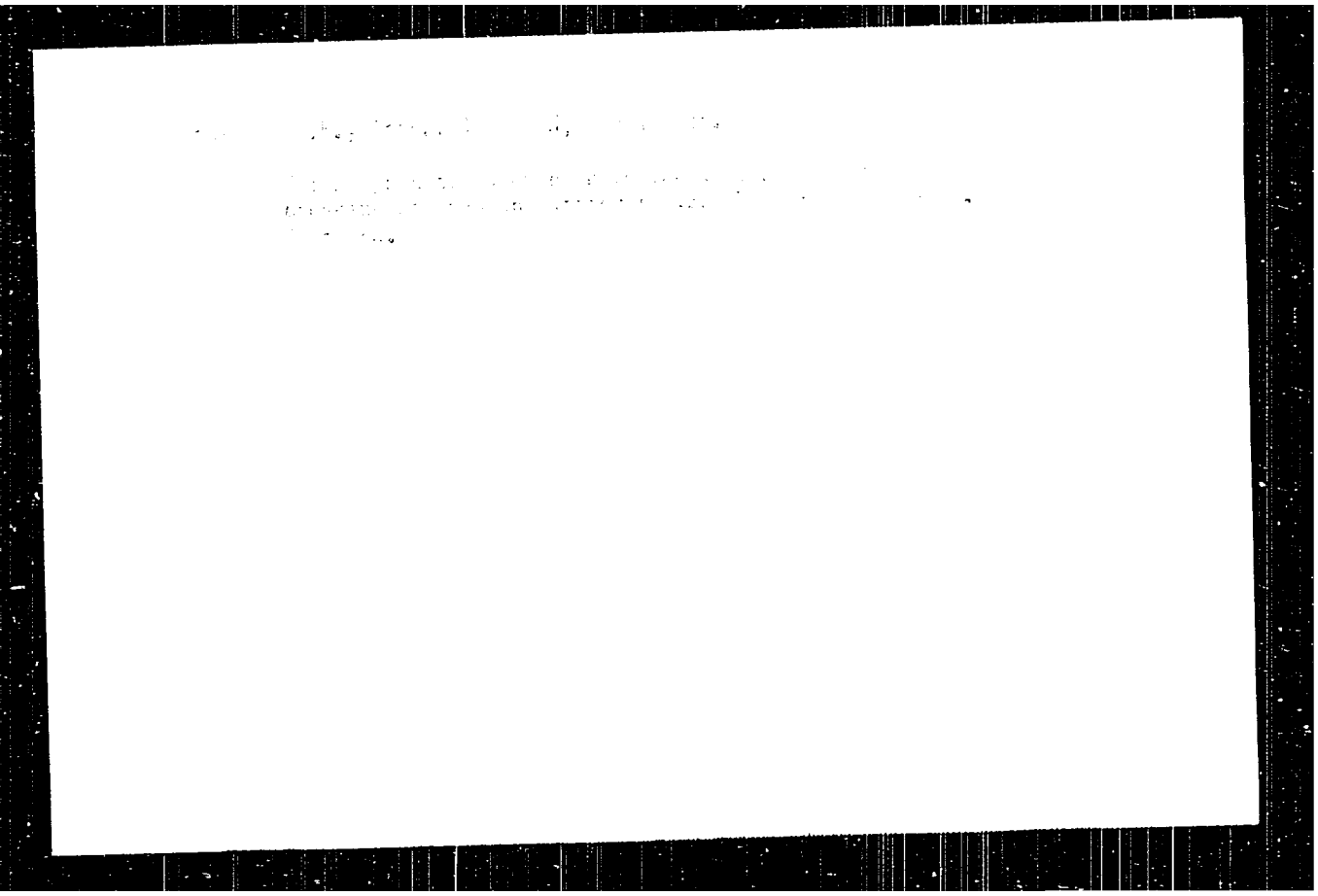
1. Glavnyy inzh. Dnepropetrovskogo porta.
(Dnepropetrovsk--Harbor) (Cargo handling--Technological innovations)

SK[illegible]CHEV, V. [illegible]; [illegible], Kh.; [illegible]AYNES, A.S.; Prinimali uchastiye: [illegible], T.; [illegible], T.; ZEVTOLIYENKO, Yu.; MUKHIN, V.; GOL'DMAN, A.

Oxidation and phosphorylation in mitochondria fo the embryonic muscle. Biokhimiia 29 no.4:653-661 Jl-Ag '64.

(MIRA 18:6)

1. Kafedra biokhimii zhivotnykh Moskovskogo gosudarstvennogo universiteta imeni Lomonosova.



GOL'DMAN, A. G.

"To the Theory of the Imbibation of Water by the Soil," Pedology, No.1, 1947

GOLDMAN, A.

301. Becquerel Effect with Cu_2O Electrodes. A. Goldmann. [illegible] 8, 2-3, pp. 303-331, 1935. In German.—By a consideration of the electrical properties of Cu_2O rectifier photo-cells and of photovoltaic electrolytic cells [illegible] relations, which are the same for [illegible] the properties of Cu_2O rectifiers and [illegible] of Cu_2O [illegible] cells are found to be covered by the same relations. The relations are shown to be in accordance with the experimental results recorded by other workers, and with experiments described in the paper. D. H. F.

GOL'DMAN, A. G.

Gol'dman, A. G. "Pedagogical ideas of A. G. Stoletov," Vestnik vyssh. shkoly, 1948, No. 12, p. 22-25 - Bibliog: 27 items

SO: U-3264, 10 April 1953, (Letopis 'Zhurnal 'nykh Statey, No. 3, 1949).

GOLDMAN, A. G.

USSR/Physics - Photoconductivity Jan/Feb 52

"Synchronous Illuminator - A Method to Study Photoconductivity," A. G. Goldman, Vologda State Pedagogical Inst

"Iz Ak Nauk SSSR, Ser Fiz" Vol XVI, No 1, pp 133-135

Alternating illumination is used to study photoelec phenomena in semiconductors (cf. L. Bergmann, Phys. Zs., 33, 209 (1932); L. Bergmann and J. Haensler, Zs.f. Physik, 100, 50, 1936; B. Schoenwald, Ann. der Physik, 15, 395, 1932). Describes synchronous illuminator built by himself, and presents example of computation of current. Indebted to V. S. Lagovskiy and A. I. Malakhov.

218T98

GOL'DMAN, A.G.

Sensitization of the photoconductivity of silver iodide by organic dyes. A. G. Gol'dman and I. A. Akimov (V. M. Molotov Pedagog. Inst.). *Zhur. Fiz. Khim.* 27, 355-61(1953); cf. B. K. Putseiko and A. N. Terenin, *C.A.* 43, 7340d.—The photocond. of films of AgI, prepd. and treated with various org. dyes by a described method, was detd. as a function of wave length (λ) in the 400–740 mμ range. The dyes and the tabulated λ in mμ of max. photocond. for each are: methyl green (I), 620; crystal violet (II), 480–640; basic fuchsin (III), 540; methylene blue (IV), 680; iodoeosin (V), 520; erythrosin (VI), 500; safranine, 480; fluorescein, 480; Bismarck Brown, 540; Congo red, 540; neutral red, 480–540; eosin, 520; methylene green, 620; Na eosin, 520; methyl violet, 480–640; bromophenol blue, 600; dimethylaminoazobenzene, 480–540. Graphs of photocond. as a function of λ are given for films dyed with I-VI and for undyed AgI. The cond. (c) of the latter after cessation of illumination is graphed as a function of time. J. W. Loweberg, Jr.

GOL'DMAN, A.G., professor.

Practical approach to the teaching of phosphorescence. Fiz.v shkole 14 no.2:46-48 Mr-Ap '54. (MLRA 7:2)

1. Gorod Balashov, Pedagogicheskiy institut.
(Phosphorescence--Study and teaching)

A-5

USSR/General Section . Problems of Teaching.

Abs Jour : Referat Zhur - Fizika, No 4, 1957, 8251

Author : A.G. Goldman
Inst :
Title : Certain Problems in the Teaching of Physics in U.S. Higher Schools (from the Pages of the American Journals).

Orig Pub : Vestn. vyssl. shroly, 1956, No 10, 48-52

Abstract : No abstract.

Card 1/1

AUTHOR: Gol[illegible], A. [illegible]

TITLE: Spectral Distribution of the Photocurrent of a [illegible] Photo Cell Operating in the Photo Diode Regime (Spektral'noye [illegible] fotoelementa [illegible] rezhime)

PERIODICAL: [illegible], Vol [illegible], Nr 4, [illegible] (USSR)

ABSTRACT: A number of special cells were [illegible] by the laboratory of the Leningrad Agrophysical Institute. These were investigated experimentally under a variety of conditions. The photocurrent of a cell was determined as a difference between the "dark" current and the current when the cell was illuminated; the two currents were measured for the same potential difference across the cell. The measurements were carried [illegible] across the cell. [illegible] photocurrents were [illegible] than the "dark" currents [illegible] it was necessary to eliminate the latter by means of an additional [illegible] voltage [illegible]. [illegible] it was possible to [illegible] A. [illegible] $10^{-?}$ A. The measure- [illegible] a photocurrent [illegible]

Card 1/[illegible]

[illegible]

Spectral Distribution of the Photocurrent [illegible]
Operating in the Photo Diode Regime

[illegible] in Fig.1. The experimental results are
[illegible] shown in Fig.2-7. [illegible]
[illegible] of a cell loaded with an [illegible] voltage is illustra-
[illegible] Ω and [illegible] Curves II, III, IV, V
[illegible] by curves I in Fig. [illegible] loaded with 25 kΩ
[illegible] VI [illegible] Fig. [illegible] were taken for [illegible] from .05 to 1 V. Fig.3
for [illegible] biasing voltage [illegible] function of the
shows the resistance of a photo cell [illegible] the photo current
[illegible] voltage, while Fig.4 [illegible] of the reverse
at [illegible] wavelength of [illegible] as a function [illegible] the spectral dis-
voltage applied to the cell. Fig. [illegible] shows the spectral dis-
tribution of the photo current for a cell biased in the for-
ward direction. The [illegible] of the photo
current for a forward biasing voltage of 10 mV is shown in
Fig.5; Curve I [illegible] Curve II was taken for-
[illegible] 5 to [illegible] sec after the switching [illegible] of the illumination
[illegible] Curve III was taken after [illegible] from the instant
of [illegible] The [illegible] in the curves
for Fig.5 was further investigated [illegible] is illustrated in

Card [illegible]

Spectral Distribution of the Photocurrent of a Selenium Photo Cell Operating in the Photo Diode Region

Fig.7. From the above results it is concluded that the action of the photo current for the no-bias regime and for the photo-diode regime are very nearly equivalent. This means that the current carriers in the photo-effect and in the photo-diode effect are derived from the same energy level. There are 7 figures, 3 references, of which 2 are Soviet and 1 is German.

SUBMITTED: April 5, 1956

1. Selenium--Electrical properties 2. Photoelectric cells--Electrical properties 3. Electric currents--Measurement 4. Potentiometers--Applications

Card 3/3

67203

SOV/58-59-7-15786

24.2600

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 7, p 162 (USSR)

AUTHOR: Gol'dman, A.G.

TITLE: Photoelectric Effect in the Region Near the Electrodes in Selenium

PERIODICAL: Uch. zap. Leningr. gos. ped. in-ta im. A.I. Gertsena, 1958, Vol 148, pp 7 - 13

ABSTRACT: A Se-photovaristor with aquadag electrodes and a DC galvanometer were connected in series in the circuit of a controllable source of alternating voltage up to 250 v. Dark current only caused some pointer flicker in the galvanometer. If, however, the semiconductor layer adjoining one of the electrodes was illuminated by a narrow light probe, a rectified current was detected in the circuit. Its direction corresponded to the positive voltage on the illuminated electrode. At an effective voltage of 250 v the rectified voltage amounted to 4.2 v. The magnitude of the rectified current was proportional to the applied alternating voltage and almost proportional to the square root of the illumination of the region near the electrodes. The spectral maximum of the photo effect in the region near the electrodes was shifted toward the shorter wavelengths as compared

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67203

SOV/58-59-7-15788

Photoelectric Effect in the Region Near the Electrodes in Selenium

with the maximum of the photoconductivity. The photo effect that was observed in the region near the electrodes is explained as follows: the drop of the potential which takes place in the Se preparation at the anode, is partially or completely eliminated through the action of illumination

A. Poletayev

Card 2/2

9(3),24(5)

AUTHORS: Gol'dman, A. G., Academician, AS UkrSSR, SOV/20-128-4-17/65
Kurshev, A. K.

TITLE: Long "Memory" Effect in Photoelectric Conductivity

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 4, pp 698-701 (USSR)

ABSTRACT: The data reported in the present paper on the long "memory" were obtained by the authors on occasion of an X-radiation and on the occasion of illumination of cadmium sulfide polycrystals of photoelectric resistances. The authors determined the difference in the increase of photoelectric resistance at non-excited and (by irradiation or illumination) excited photoelectric resistances. They used the photoelectric current after 20 hours of illumination or irradiation as indicator for the comparison of these states. The first diagram concerns the illumination of a photoelectric resistance type FS-K1 through a green light filter ($\lambda \sim 540$ mμ). A preceding illumination increases the initial photoelectric conductivity of the photoelectric resistance and this increased sensitivity remains. After the passing of several dozens of hours it slowly decreases. The measurements should be made rather

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rarely as each of them increases the excitation. On the other hand these indicator measurements yield valuable indications on the state of the photoelectric conductor. A preceding illumination or radiation entirely changes the path of the increase curve. Two diagrams illustrate examples. In the investigation of the photoelectric conductivity of cadmium sulfide and similar semiconductors the absence of preceding excitation has to be checked especially precisely, as an unknown previous history would influence the process in a way which could not be taken into consideration. The increase of the photoelectric current in previously not excited photoelectric resistances is of interest. The photoelectric current increases up to a maximum in the flex point and then decreases slowly approaching the steady value of the photoelectric current. Four important phases can be observed in the relaxation processes of the photoelectric conductivity of polycrystalline CdS: The first phase is the accumulation of the excitation and the photoelectric conductivity increases in an accelerated manner. This phase is described to a certain degree by the scheme of V. Ye. Lashkarev and G. A. Fedorus. According to this scheme the photoelectrons originating in

the valency zone first appear on the capture level and are led by a second photoelectric transition into the zone of conductivity. The second phase of the process is the slowing down of the increase of photoelectric current until a steady value is reached. The third phase consists in the reduction of the photoelectric current after ceasing of the illumination or irradiation until an almost steady darkness value is reached. The fourth phase consists in slow reduction of the accumulated excitation caused by recombination of the electrons with the holes accumulated on the capture level. These electrons then form the "memory" of the semiconductor and the fourth phase can be called the "paling" of the memory. By the phenomenon of long-lasting conservation the photoelectric conductivity approaches the phosphorescence. On the other hand the long memory of the photoelectric resistances forms a sphere of phenomena which can be classified between photography and photoelectric effects of low inertia. This memory can be developed by subsequent illumination or irradiation. The authors express their gratitude for assistance in the measurements to T. M. Khlopyan. There are 4 figures, 1 table, and 4 references, 2 of which are Soviet.

Long "Memory" Effect in Photoelectric Conductivity SOV/20-129-4-17/69

ASSOCIATION: Rostovskiy-na-Donu inzhenerno-stroitel'nyy institut
(Rostov-na-Donu Construction Engineering Institute)

SUBMITTED: July 6, 1959

Card 4/4

86830

S/020/60/135/005/019/043
B019/B067

24.3500 (1035, 1137, 1138)

AUTHOR: Gil'dman, A. G., Academician of the AS UkrSSR

TITLE: A New Effect of Electroluminescence of Black Carborundum

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 135, No. 5, pp. [illegible]

TEXT: G. F. Lorer (Ref. 1) discovered and described two kinds of electroluminescence of black carborundum. In the introduction, the author briefly discusses these two kinds, one referred to as luminescence II, the other as "analogous luminescence I". He made experiments with black carborundum of the Zaporozhskiy zavod abrazivnykh izdeliy (Zaporozh'ye Factory of Abrasives). Carborundum crystals were subjected to the action of rectangular current pulses for a duration of 10 microseconds, and a pulse repetition frequency of 0.005 cycles. He made photometric, oscilloscopic, and microscopic studies at room temperature. It was found that the [illegible] luminescence II amplitude and form of the light pulses did not depend on the pulse repetition frequency in the range of from 1000 to 40,000 cycles. At higher pulse repetition frequencies

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86830

S/020/60/135/005/019/045
B019/B067

A New Effect of Electroluminescence of Black Carborundum

luminescence I, which is observed at commutation of the current, begins increasing nonlinearly. This indicates the formation of new sources of luminescence. In various crystals, this formation started in a frequency range of from 2500 to 6000 cycles. The author calls it luminescence III. An electron hole junction is formed, the color of which differs from the two other kinds of luminescence and appears after cessation of the current pulse. The author thanks the managers of the Zaporozh'ye Factory of Abrasives for supplying carborundum druses, R. G. Ofengenden for making available a pulse generator, and G. I. Labaznikov for his assistance in measurements. There are 4 figures and 4 references: 1 Soviet, 1 German and 1 US.

ASSOCIATION: Institut fiziki Akademii nauk USSR (Institute of Physics of the Academy of Sciences UkrSSR)

SUBMITTED: July 6, 1960

Card 2/2

GOL'DMAN, A.G. [Gol'dman, O.H.]

M.V. Lomonosov's paper on atmospheric electricity in P. Muss henbroek's course "Introductio ad philosophiam naturalem" (1762). Ukr. fiz. zhur. 6 no.5:579-582 S-O '61. (MIRA 14:11)

1. Institut fiziki AN USSR, g. Kiyev.
(Atmospheric electricity)

S/185/61/006/006/008/030
D299/D304

24,3500 (1137,1138)

AUTHORS: Holodman, O.H., Dudnyk, V.P., and Proskura, C.I.

TITLE: On frequency characteristics of the brightness of electroluminescent cells with zinc-sulfide phosphors

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 6, no. 6, 1961, 761 - 763

TEXT: The frequency characteristic of an electroluminescent cell with a ZnS phosphor is mainly determined by its capacitance being almost linear (in case of a constant voltage), viz. i = 2πfVC. The frequency characteristic of the brightness B of a cell is approximately given by the formula $B = af^k$, where a and k are constants ($0 < k < 1$). If a resistor is connected in series with the cell, a maximum appears on the frequency characteristic at a frequency that is lower, the greater the ballast resistance; the brightness decreases fast with frequencies higher than that corresponding to maximum brightness. Insertion of a capacitance in parallel with the ballast resistor leads to a certain linearization of the characteristic.

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S/[illegible]/61/[illegible]/[illegible]/[illegible]
D299/D304

On frequency characteristics of ...

Thereby it is possible to regulate the capacitance (in a certain interval), so that the brightness becomes practically independent of the frequency. It is expedient to form a resonance circuit, by inserting an inductance. This has the following advantages: a) The voltage at the cell is increased (three- to tenfold) as compared to the source voltage, b) The brightness is greatly increased (a hundredfold), c) The current source is more efficiently used, d) The electroluminescence yield is higher. The frequency characteristics of electroluminescent elements reflect also the peculiarities of the electroluminescence mechanism. Thus, if dissimilar luminescent centers are present (ZnS Cu, Mn), the frequency characteristics under similar electrical conditions, but in different spectral regions have different exponents k. The frequency characteristics for the variable luminescence-component and for its constant component are in a different ratio depending on the luminescence relaxation process. There are 4 figures.

ASSOCIATION: Instytut fizyky AS UkrRSR (Institute of Physics of the AS UkrSSR, Kyyiv) [Abstractor's note: Essentially complete translation]

Card 2/2

S/[illegible]/[illegible]/132/[illegible]/[illegible]/024
B1[illegible]/B1[illegible]

AUTHOR: Gol'dman, A. G., Member of the AS [illegible]

TITLE: [illegible] the investigation of [illegible] electroluminescence of black carborundum (luminescence [illegible])

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 1[illegible], no. [illegible], 1[illegible], [illegible]-762

TEXT: The [illegible] properties of a so-called luminescence III of carborundum crystals were detected by oscillographic investigation. The influence of sufficiently strong rectangular field pulses in quick succession (less than 250 μsec interval) upon crystals of black carborundum with an electron-hole junction cause the so-called luminescence II (caused by injection of carriers through an electron-hole junction), a luminescence I (individual glowing points or point chains on the periphery of the region of luminescence II) and the so-called "luminescence III". The color of luminescence III is different from that of luminescence II. The average value of its luminosity increases faster than linearly with the pulse frequency. Its instantaneous value increases in the intervals between two pulses. Luminescence III appears after the cessation of the preceding pulse and is ex-

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tinguished when the subsequent pulse appears. The luminescence III is an afterglow of electroluminescence. It is generated by repeated sufficiently long pulses of sufficiently high voltage amplitude acting on the electron-hole junction in the back direction. The recombination mechanism of the luminescence III of carborundum crystals is evident. There are 4 figures. The English-language reference is: A. G. Chynoweth, K. G. McKay, Phys. Rev., 102, 369 (1956), 106, 418 (1957); A. G. Chynoweth, G. L. Pearson, J. Appl. Phys., 29, 1103 (1958).

ASSOCIATION: Institut fiziki Akademii nauk UkrSSR (Physics Institute of the Academy of Sciences UkrSSR)

SUBMITTED: February 9, 1962

GOL'DMAN, A.G., akademik; TOROPKOVA, L.V.

Infrared electoluminescence of cuprous oxide. Dokl. AN SSSR 147 no.5:1053-1056 D '62. (MIRA 16:2)

1. Institut fiziki AN UkrSSR. 2. AN UkrSSR (for Gol'dman).
(Luminescence) (Copper osides)

S/020/63/149/003/011/028
B102/B186

AUTHORS: Gol'dman, A. G., Academician AS UkrSSR, Pronkura, A. I.

TITLE: Determination of the spectral burst composition in the Gudden-Pohl effect for luminophores with ZnS basis

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 149, no. 3, 1963, 567-570

TEXT: The authors measured the spectra of luminescence bursts arising owing to the Gudden-Pohl effect. The luminophor was excited by filtered light from a mercury lamp; an УМ-2 (UM-2) monochromator (0.5 mm slit), a photomultiplier of type ФЭУ-19М(FEU-19M)(4.10^{-8} a dark current) and a galvanometer ($0.41 \cdot 10^{-9}$a/scale un.) were used for the measurements. Luminophors with high yield were prepared by boiling a mixture of 150 ml distilled water, 5 g special ZnS and 60 mg $SnCl_2$ for 15 min. After drying, the remaining powder was annealed (20 min, 800°C) in an open quartz ampule. The luminophor obtained was analyzed: $6 \cdot 10^{-4}$g Sn and $7 \cdot 10^{-5}$g Cu per g of ZnS. A layer (0.1 mm) of it was deposited between the electrodes (metal and SnO_2-coated glass). The emission spectra have a peak at 525μ

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and almost Gaussian shape. The spectrum of photoluminescence is somewhat shifted with respect to the light sum spectrum of the Gudden-Pohl effect toward the short-wave side (by 0.532μ at the peak, somewhat more at the short-wave side where it forms a tail). A comparison between the spectra of photoluminescence luminosity or the light sum of G-P effect and phosphorescence luminosity 30 sec after excitation also show a similar effect: the second spectrum is broader and, especially at low intensities, shifted to the blue side. There are 4 figures.

ASSOCIATION: Institut fiziki Akademii nauk USSR (Institute of Physics of the Academy of Sciences UkrSSR)

SUBMITTED: November 3, 1962

L 10836-63 EWT(1)/BDS--AFFTC/ASD
ACCESSION NR: AP3000743 S/0020/63/150/003/0519/0522

AUTHOR: Gol'dman, A. G.; Member Academy of Sciences USSR; Proskura, A. I. 56 55

TITLE: The Nature of the Gudden-Pohl effect

SOURCE: AN SSSR. Doklady, v. 150, no. 3, 1963, 519-522

TOPIC TAGS: luminors, external electric field, electrons

ABSTRACT: In order to check the theory of this effect suggested by D. Currie according to which the external field empties the traps formed previously by excitation, the authors have studied this effect with the luminor ZnS-Cu, Sn described previously by them (DAN, 149, 3, 1963). The excitation was with a PRK-4 quartz lamp using UPhS-3 light filter, the long-wavelength irradiation with a 40 w bulb, LRS-3 light filter. The flash was produced with a-c field, 50 hz. The authors conclude on the basis of the results obtained that the external electric field interacts with an interval protecting electric field produced by electrons trapped on the deep levels. The properly oriented external field partly removes the protecting electrons, and the excited centers recombine with free electrons producing the flash. Orig. art. has: 2 figures.

Association: Institute of Physics, Acdmy. of Sciences

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L 16143-65 EWT(l)/EWG(k)/EWT(m)/EPA(w)-2/EEC(t)/EEC(b)-2/EWP(t)/EWP(b)
Pz-6/Pab-10 IJP(c)/ESD(gs)/ESD(t)/AFWL/ASD(a)-5/AS(mp)-2 JD/AT/WH
ACCESSION NR: AP4049125 S/0020/64/159/001/0043/0045

AUTHORS: Gol'dman, A. G. (Academician AN UkrSSR); Zholkevich, G. A.; Lazar', N. P.; Dudnik, V. P.

TITLE: Volume electroluminescence and emission of hot electrons from sublimated films of zinc sulfide

SOURCE: AN SSSR. Doklady*, v. 159, no. 1, 1964, 43-45, and top half of insert facing p. 44

TOPIC TAGS: luminescence, electron emission, thin film/ FK 106 Cu activated ZnS

ABSTRACT: By using a slotted arrangement of electrodes, the authors discovered volume luminescence from one electrode to another in sublimated films of ZnS. The initial material was ZnS activated by Cu (brand FK-106). Copper chloride was added to this, and the mixture was poured into an alundum crucible and then placed in a high vacuum at high temperature (1000-1200°). The glass base was placed in a zone with a temperature of 300-350°. The resulting material was polycrystalline, dense, strongly bonded to the glass, forming a transparent film 3-10 microns thick, but scattering light slightly. Two electrodes were placed on top of the

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film, from a few tenths of a millimeter to 1.5-2 mm apart. The electrodes were plated by sublimation in a vacuum, chiefly with Al, but Cu, In, and Au were also tried. A potential was impressed across the the electrodes, and the film began to glow at a potential of about 10^4 v/cm. It glowed from cathode to anode, varying in uniformity in different experiments. The brightness of the luminescence, given in arbitrary units, may be expressed by the general formula $B = AV^k$, where V is given in kv and k >1.0. For an example, when k was 13, for a particular arrangement of the electrodes, B ranged from 3 at 0.3 kv to 43 000 at 0.64 kv. The current through the electrode system exhibited a dependence on the voltage that was approximately exponential as well. On oscillograms, with alternating field, a correspondence was observed between brightness maximums and voltage peaks at low frequencies (100 cycles), but this correspondence became weaker for higher frequencies (1000 cycles). It was also noted that electroluminescence of the type observed was accompanied by marked "cold" emission of hot electrons. "The authors express their thanks to R. D. Fedorovich for his kind assistance in preparing the lamp to detect emission." Orig. art. has: 4 figures and 1 table.

ASSOCIATION: Institut fiziki Akademii nauk UkrSSR (Institute of Physics, Academy of Sciences, UkrSSR)

L 16143-65
ACCESSION NR: AP4049125

SUBMITTED: 08Jul64 ENCL: 00

SUB CODE: SS, OP NO REF SOV: 003 OTHER: 008

Card 3/3

L 64497-65 EWT(l)/EWT(m)/EWP(t)/EWP(b) IJP(c) JD

ACCESSION NR: AP5012623 UR/0051/65/018/005/0894/0896 535.373.1

AUTHORS: Gol'dman, A. G.; Proskura, A. I.; Lysenko, S. F.

TITLE: Excitation spectra of the Gudden-Pohl effect in copper-activated zinc-sulfide phosphors

SOURCE: Optika i spektroskopiya, v. 18, no. 5, 1965, 894-895

TOPIC TAGS: emission spectrum, zinc compound optic material, optic activity, phosphorescence, luminescence, photoconductivity

ABSTRACT: This is a continuation of earlier work (DAN SSSR v. 149, 1419, 1963 and v. 150, 519, 1963), in which the emission spectra of the Gudden-Pohl effect in ZnS-Cu,Sn phosphor was measured. To measure the excitation spectra, it was necessary to get rid of the combined excitation effects which increase the phosphorescence of the impurity and also the Gudden-Pohl effect. Since it was shown in the earlier work that the Gudden-Pohl effect involves not only an excita-

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ACCESSION NR: AP5012623

tion of the activation centers by short-wave illumination but also a stable internal electric field resulting from the superposition of an external field on the phosphor in the presence of excitation, precautions were taken in the experiments to quench the mechanism whereby excitation of the surrounding phosphor is transported to the Gudden-Pohl effect centers. This was done by application of AC voltage without illumination to the phosphors. This left only a second-order Gudden-Pohl effect, which was the main object of the measurements. The preparation of the phosphor powders and the test technique are briefly described. The Gudden-Pohl excitation spectra were found to consist of a single band with a sharp maximum at 340 nm. This practically coincides with the long-wave absorption edge of pure ZnS (338 nm) and agrees with the width of the forbidden band of ZnS (3.65 eV). It is therefore concluded that the primary act in the excitation of Gudden-Pohl luminescence consists in an electron transfer from the filled band to the conduction band and establishment of photoconductivity. Measurement of the phosphorescence excitation spectra, which were determined together with the Gudden-Pohl excitation spectra, confirmed the model wherein the phosphorescence centers

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ACCESSION NR: AP5012623

and the Gudden-Pohl flash emission centers coincide in the same phosphor as long as there is not protective field to create special conditions for Gudden-Pohl centers. 'We thank N. N. Kalibabchuk for the analysis of the phosphor and L. S. Pekar for preparation of the ZnS-Cu,Cl specimens.' Orig. art. has: 4 figures.

ASSOCIATION: None

SUBMITTED: 21Dec64 ENCL: 00 SUB CODE: OP

NR REF SOV: 002 OTHER: 003

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L 64497-65
ACCESSION NR: AP5012623

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ASSOCIATION: None

SUBMITTED: 21Dec64 ENCL: 00 SUB CODE: OP

NR REF SOV: 002 OTHER: 003

Card 3/3

L 64497-65
ACCESSION NR: AP5012623

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ASSOCIATION: None

SUBMITTED: 21Dec64 ENCL: 00 SUB CODE: OP

NR REF SOV: 002 OTHER: 003

Card 3/3

L 11938-66 EWT(l)/EWT(m)/EWP(t)/EWP(b) IJP(c) JD
ACC NR: AP6001649 SOURCE CODE: UR/0051/65/019/006/0943/0950

AUTHOR: Gol'dman, A.G.; Proskura, A.I.; Lysenko, S.F.

ORG: none

TITLE: Three types of Gudden-Pohl effect and the phosphorescence of copper-activated zinc sulfide

SOURCE: Optika i spektroskopiya, v. 19, no. 6, 1965, 943-950

TOPIC TAGS: zinc sulfide, phosphorescence, luminescent center

ABSTRACT: The authors consider a characteristic property of the Gudden-Pohl effect (GPE) which consists in the conservation for an extended period of time in the solid dielectric of a certain portion of the absorbed light energy in the form of ionized luminescence centers and electrons, with their radiation recombination controlled by the electrical field. The mechanism of GPE center excitation is considered, and three types of GPE are described. The possible interaction of these types is analyzed. The paper deals primarily with a study of the physical nature and laws of the 2nd and 3rd types of GPE, with particular attention given the derivation of the 3rd type and its control. The 2nd type is the effect arising as the result of the preliminary combined effect of shortwave radiation and the internal electric field; the 3rd type is the

UDC: 535.373

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L 11938-66

ACC NR: AP6001649

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effect obtained as the result of new excitation arising without new radiation. The excited luminescence centers of the GPE in copper-activated zinc sulfide luminescent materials are regarded as phosphorescence centers protected by local fields against recombination. The characteristics of the 2nd and 3rd types of GPE are defined and methods of controlling these processes are devised. Orig. article has: 2 tables and 6 figures.

SUB CODE: 20, 11 / SUBM DATE: 06Jul64 / OTH REF: 003

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L 26494-66 EWP(k)/EWT(l)/EWT(m)/ETC(f)/EWG(m)/T/EWP(t)/ETI/EWP(e) IJP(c) RDW/
ACC NR: AP6013058 RM/JD SOURCE CODE: UR/0048/66/030/004/0593/0598

AUTHOR: Gol'dman, A. G.; Zholkevich, G. A.; Lazar', N. P.; Dudnik, V. P.

ORG: None

TITLE: Investigation of the electroluminescence of sublimated films /Report, Fourteenth Conference on Luminescence held in Riga, 16-23 September 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 4, 1966, 593-598

TOPIC TAGS: electroluminescence, electric conductivity, phosphor film, zinc sulfide

ABSTRACT: The paper gives the results of further investigation of sublimated copper-activated zinc sulfide films described by the authors earlier (Doklady AN SSSR, 159, No. 1, 48, 1964) and used for the preparation of slit type electroluminescent cells. The basic preparation procedure was developed by G.A.Zholkevich and V.P.Dudnik. The initial material was ZnS powder with about 10^{-3} g/g Cu. Sublimation from the crucible in a quartz tube began at 850-900°C and was continued for 1 to 2 hours, depending on the film thickness desired; in the process the furnace temperature rose to 1100-1200°C. Sublimates with blue emission were deposited in the 150 to 300° zone with any orientation of the substrate relative to the crucible. Condensation occurred not from a molecular beam, but from a "gaseous cloud" of appreciable density, so that all angles of incidence were equally probable. The operating vacuum was 10^{-4}-10^{-5} mm Hg. The

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reproducibility of the films was good. The advantages of the technique are described and it is noted that it can be used not only for slit type cells but also for cells of the sandwich type. Electroluminescence with a brightness of up to 30 nit could be satisfactorily excited by either ac or dc. The emission peak is located at about 475 mμ. In the case of slit type cells with an interelectrode gap exceeding 1 mm the electroluminescence is uniformly distributed over the interelectrode space. The brightness B is characterized by $B = B_0V^n$, where V is the voltage and n is an exponent that varies from 9 to 12 for the sandwich type cells and from 12 to 14 for the slit type. In fields stronger than 10^4 V/cm, the variation of brightness with the current is given by $B = CI^m$, where m is about 2; in weaker fields the values of m vary in the range from 4 to 9. The sublimated films in the form of slit type cells with aluminum electrodes (gap about 1 mm) were investigated at 77° K in fields of up to 20 kV/cm. A number of interesting facts were observed: upon increase of the voltage to a critical value the cell becomes a negative resistance; after going through the critical voltage the new state with stimulated conductivity (the value of this may be as high as 50 times the conductivity at room temperature) is stable (the current-voltage characteristics are reversible); the stimulated state can also be induced by UV irradiation at 77°K; the stimulated state can be destroyed by heating and re-established by either of the above-mentioned two procedures; in the stimulated state, as in the "ordinary" state, the current is proportional to the voltage to the 7-th or 8-th power; the brightness dependence in the stimulated state, as in the ordinary state, is proportional to the current to approximately the second power; owing to the high current values realiz-

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ACC NR: AP6013058

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able in the stimulated state in this state it is feasible to obtain brightnesses an order of magnitude higher than in the ordinary state. The authors also prepared CdS films 20-30 microns thick by vacuum sublimation onto conducting glass substrates heated to 350 to 450°; these were then drifted with gallium to obtain n-type films with a resistivity of 10^2-10^3 ohm cm. The CdS films were further coated (also by vacuum evaporation) with zinc telluride doped with silver and the combined film was annealed for 5-10 min at 520° to induce ordering. These double layer films also exhibited bright luminescence; the electroluminescence at liquid nitrogen temperature with the voltage in the "conducting" direction attained 10-15 nit, whereas with the voltage in the "blocking" direction the brightness was about an order of magnitude lower. Both the current and the voltage appear to be varying power functions of the voltage. Orig. art. has: 5 figures.

SUB CODE: 20/ SUBM DATE: 00/ ORIG REF: 002/ OTH REF: 005

Card 3/3 CC

L 14859-66 EWT(l)/EWT(m)/EWP(b)/EWP(t) IJP(c) AT/JD

ACC NR: AP6001722 SOURCE CODE: UR/0020/65/165/004/0786/0789

AUTHOR: Gol'dman, A. G. (Academician AN UkrSSR); Zholkevich, G. A.; Lazar', N. P. 79 13

ORG: Institute of Physics, Academy of Sciences UkrSSR (Institut fiziki Akademii nauk UkrSSR)

TITLE: Stimulated currents and electroluminescence in sublimated zinc sulfide films at 77K

SOURCE: AN SSSR. Doklady, v. 165, no. 4, 1965, 786-789

TOPIC TAGS: zinc sulfide, electroluminescence, thin film circuit, volt ampere characteristic, electric conductivity, uv irradiation

ABSTRACT: This is a continuation of earlier work by the authors (DAN, v. 159, no. 1, 43, 1964) dealing with electroluminescent slit cells with sublimated zinc-sulfide cells. The present article reports briefly tests of these cells at 77K, obtained by applyin a dc voltage (from 100 to 2500 v) and measuring the photoluminescence with a photomultiplier. The slit cell consists of a sublimated ZnS film on a glass substrate. The results showed that when the voltage is raised to a critical value, the cell becomes a negative resistance. Reduction of the voltage after going through the critical value establishes a new state of the cell with stimulated conductivity, which in some cases exceeds the conductivity at room temperature by a factor or 50. The stimulated state is stable over a long time and its volt-ampere characteristic is reversible. The stimulated state can also be established by preliminary ultraviolet

Card 1/2 UDC: 539.293 : 535.376.2

L 14859-66

ACC NR: AP6001722

irradiation of the cell at 77K. It can be eliminated by heating and re-established by one of the indicated methods. In the stimulated state, as in the normal state, the current is proportional to approximately the seventh or eighth power of the voltage. The electroluminescence brightness in stimulated states increases more rapidly than linearly with current, being proportional to almost the square of the current. The brightness obtained in the stimulated state is many times larger than at room temperature. The experimental results are described in some detail. Unlike the results obtained by C. W. Litton and D. C. Reynolds (Phys. Rev. v. 125, no. 2, 516, 1962 and v. 133, no. 2A, A 536, 1964) for CdS, the luminescence was obtained in both unstimulated and stimulated state, and the volt-ampere characteristics are reversible in the present experiment. Orig. art. has: 4 figures.

SUB CODE: 20/ SUMB DATE: 09Jun65/ ORIG REF: 001/ OTH REF: 005

Card 2/2

L 08134-67 EWT(1) IJP(c) AT

ACC NR: AP6033525 SOURCE CODE: UR/0185/66/011/010/1114/1117

AUTHOR: Hol'dman, O. H. --Gol'dman, A. G.; Zholkevych, H. O. --Zholkevich, G. A.; Lazar', M. P. --Lazar', N. P.

ORG: Institute of Physics, AN URSR, Kiev (Instytut fizyky AN URSR)

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B

TITLE: Electroluminescence of ZhS crystals and electron emission in vacuum

SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 11, no. 10, 1966, 1114-1117

TOPIC TAGS: electroluminescence, electron emission, zinc sulfide, vacuum

ABSTRACT: A description is given of the conditions of formation, existence, and quenching of the electron emission in vacuum and of associated electroluminescence of the ZnS crystals. Orig. art. has: 5 figures. [Based on authors' abstract]

SUB CODE: 20/ SUBM DATE: 15Jul65/ ORIG REF: 001/ OTH REF: 003/

Card 1/1 nst

ACC NR: AP7001544 SOURCE CODE: UR/0020/66/171/003/0555/0558

AUTHOR: Gol'dman, A. G. (Academician AN UkrSSR); Zholkevich, G. A.; Lazar', N. P.

ORG: Physics Institute, Academy of Sciences UkrSSR (Institut fiziki Akademii nauk UkrSSR)

TITLE: Negative resistance and a stimulated condition in electroluminescent zinc sulfide films at 77K

SOURCE: AN SSSR. Doklady, v. 171, no. 3, 1966, 555-558

TOPIC TAGS: photoluminescence, zinc sulfide, electric measurement

ABSTRACT: The excited state of electroluminescent zinc sulfide films was studied at a temperature of 77K. This excited state was established either by ultraviolet irradiation or by application of electrical fields. The luminescence of the excited state was measured with the electroluminescent circuit placed in a liquid nitrogen cryostat. An FEU-17 photomultiplier connected either to an M-95 galvanometer or to an EPPV-60 automatic recorder was used to perform the measurements. The spectral measurements were made with an SF-4 spectrophotometer. The spectra of the excited and non-excited states practically coincided; the maximum was located at 465 mμ and the halfband width was 76 mμ. A more accurate determination of the stimulated state was made, and the possible effects of redistributing the voltage between the luminophor and the pre-electrode regions was eliminated by measuring the potential drop

Card 1/2 UDC: 535.376+535.377+537.226.8

ACC NR: AP7001544

across the luminophor with probes. The electroluminescent film was made by depositing a layer of zinc sulfide 20—30 μ thick on glass; aluminum electrodes were vacuum deposited on the film. Measuring probes, made from tungsten wires 0.2 mm thick, were embedded in the film at a depth of ~10 μ. The excited state was established by applying a critical voltage (428—640 v for electrodes placed 0.72 mm apart) across the electrodes. Ultraviolet irradiation as well as the critical voltage created a stable excited state that exhibited a several-fold rise in conductivity (at currents from 3×10^{-9} to 65×10^{-6} amp for probes placed 0.27 mm apart) and in electroluminescent brightness. The volt-ampere characteristics were identical and the thermoluminescence had equal peaks for both methods of excitation. Orig. art. has: 4 figures. [IV]

SUB CODE: 20/ SUBM DATE: 26Apr66/ ORIG REF: 002/ OTH REF: 005/
ATD PRESS: 5110

Card 2/2

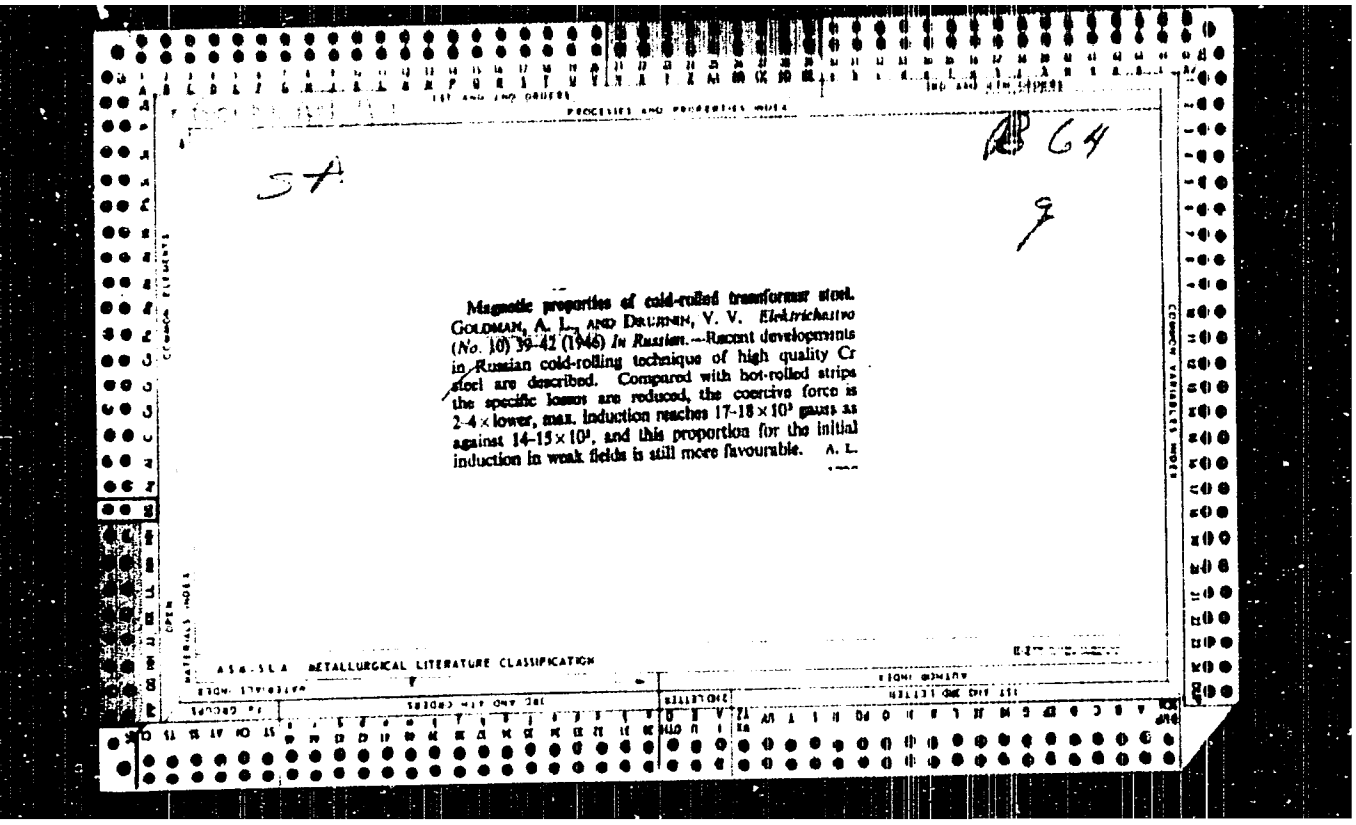
GOL'DMAN, A.I.; KHEYFETS, Yu.Ch.; GREBENKIN, V.S.; OLENICH, V.A.

Casting internal sleeves for diesel cylinders. Lit.proizv. no.7:5-6 Jl '62. (MIRA 16:2)
(Diesel engines—Cylinders)

GOL'DMAN, A. L. and SHAPIRO, B. S.

"Rolling Thin Carbon Steel Sheet with High Elastic Properties," Stal', No.6, pp. 89-94, 1946

Evaluation B-60430



Magnetic properties of cold-rolled transformer steel. GOLDMAN, A. L., AND DRUZHIN, V. V. *Elektrichestvo* (*No.* 10) 39-42 (1946) *In Russian.*—Recent developments in Russian cold-rolling technique of high quality Cr steel are described. Compared with hot-rolled strips the specific losses are reduced, the coercive force is 2-4 × lower, max. induction reaches 17-18 × 10^3 gauss as against 14-15 × 10^3, and this proportion for the initial induction in weak fields is still more favourable. A. L.

ASA-SLA METALLURGICAL LITERATURE CLASSIFICATION

GOL'DMAN, A.L., inzhener; CHERNOBROVKINA, Ye.S., inzhener; GROBMAN, R.M.

Cold rolled transformer steel. Stal' 7 no.3:231-235 '47.
(MLRA 9:1)

1.Verkh-Isetskiy metallurgicheskiy zavod.
(Sheet steel) (Rolling (Metalwork))